



# Cause of Injury for Air Evacuated Non-Battle Injuries, Operation Iraqi Freedom

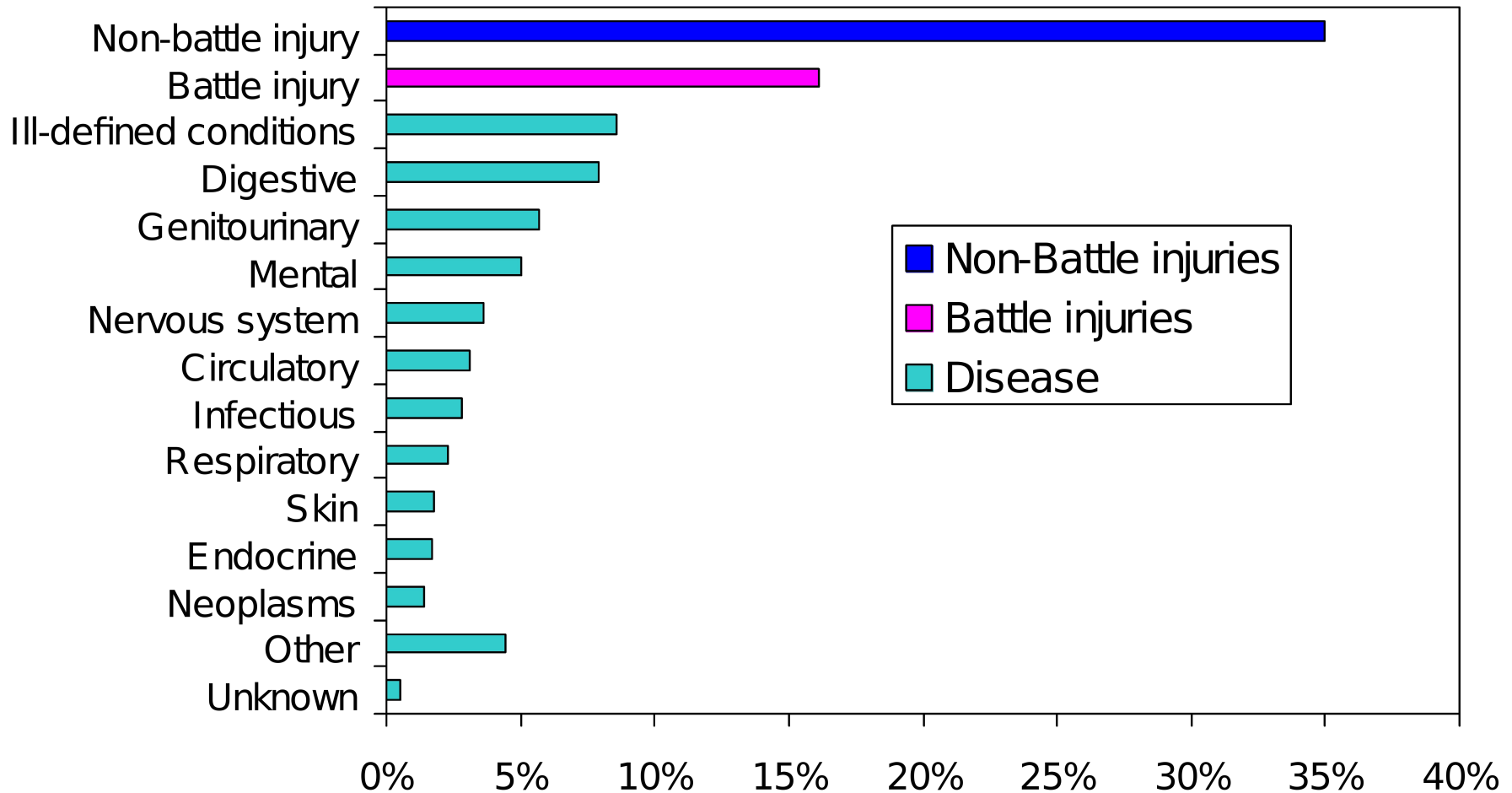
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**USACHPPM**

# RESULTS

# Army OIF Medical Evacuations by Diagnosis Group, 2003 - June 2006<sup>1-4</sup>



<sup>1</sup> Total evacuations: n= 25,331

<sup>2</sup> ICD-9 codes obtained from TRAC<sup>2</sup>ES

<sup>3</sup> Percents represent the percent of all evacuations in each diagnosis group

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<sup>4</sup> Operation Iraqi Freedom (OIF) started on 19 March 2003

# Annual Rates for Air-Evacuated NBIs

## OIF/OEF: 2001 – June 2006<sup>1,2</sup>

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Year	OIF <sup>1</sup>		OEF	
	Frequency	Annual Rate <sup>2</sup>	Frequency	Annual Rate <sup>2</sup>
CY 2001 + 2002 <sup>3</sup>	NA	NA	203	24.10
CY 2003	3349	25.87	274	28.83
CY 2004	2393	16.56	357	26.90
CY 2005	2235	17.18	300	19.60
2006 (January-June)	931	17.25	175	19.33

<sup>1</sup>Operation Iraqi Freedom (OIF) started on 19 March 2003

<sup>2</sup>Annual rate is per 1000 deployed Soldiers

<sup>3</sup>Frequency includes only November & December for 2001 (OEF)

# Causes of Non-Battle Injuries<sup>1,2</sup>

## OIF: 2003- June 2006

Cause of Injury	Mar-Dec 2003		Jan-Dec 2004		Jan-Dec 2005		Jan-June 2006	
	No. Injuries	% (Rank) <sup>2</sup>	No. Injuries	% (Rank) <sup>2</sup>	No. Injuries	% (Rank) <sup>2</sup>	No. Injuries	% (Rank) <sup>2</sup>
Sports and PT	307	13.1 (3)	305	18.6 (1)	278	20.2 (1)	153	31.1 (1)
Falls/Jumps	411	17.5 (1)	283	17.3 (2)	247	18.0 (2)	105	21.3 (2)
Twisting, turning, slipping	154	6.6 (6)	77	4.7 (7)	127	9.2 (5)	41	8.3 (3)
Motor vehicle related	392	16.7 (2)	274	16.8 (3)	250	18.2 (3)	42	8.5 (4)
Crushing / blunt trauma	206	8.8 (5)	126	7.7 (5)	133	9.7 (4)	38	7.7 (5)
Lifting, pushing, pulling	221	9.4 (4)	149	9.1 (4)	91	6.6 (6)	23	4.7 (6)
Cutting and piercing	57	2.4 (10)	70	4.3 (8)	37	2.7 (7)	19	3.9 (7)
Shoes, clothing, body armor	83	3.5 (9)	99	6.0 (6)	34	2.5 (8)	18	3.7 (8)
Instruments of war, own	101	4.3 (8)	35	2.1 (9)	29	2.1 (9)	9	1.8 (9)
Environmental	118	5.0 (7)	35	2.1 (9)	12	0.9 (10)	2	0.4 (10)
Other specified	292	12.5	184	11.2	136	9.9	42	8.5
<b>Total</b>	<b>2342</b>		<b>1637</b>		<b>1374</b>		<b>492</b>	

<sup>1</sup> Includes injuries for which the cause of injury was specified in TRAC<sup>2</sup>ES

<sup>2</sup> Causes of injury are ordered based on the ranking for Jan- June 2006

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# Causes of Non-Battle Injuries<sup>1</sup>

## OIF: 2003- June 2006

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Cause	Frequency (n)	Percent (%)
Falls/Jumps	1047	17.9
Sports and physical training	1042	17.8
Motor vehicle related	958	16.4
Crushing or blunt trauma	503	8.6
Lifting, pushing, pulling	484	8.3
Twisting, turning, slipping	399	6.8
Shoes, clothing, body armor	234	4.0
Cutting and piercing	183	3.1
Instruments of war, own	174	3.0
Environmental	167	2.9
Other specified	654	11.2
<b>Total</b>	<b>5845</b>	<b>100</b>

<sup>1</sup> Includes injuries for which the cause of injury was specified in TRAC-ES (65.6%)

# Fall and Jump Injuries (NBI)

# Types of Fall and Jump Injuries

## OIF: 2003 - June 2006<sup>1,2</sup>

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Fall Type	Frequency (n)	Percent (%)
<b>Fall</b>	<b>897</b>	<b>100</b>
On the same level	115	12.8
From one level to another	359	40.0
From stairs/ladder <sup>3</sup>	97	10.8
Unspecified level	326	36.3
<b>Jump</b>	<b>164</b>	<b>100</b>
On the same level	8	4.9
From one level to another	139	85.8
From stairs/ladder	3	1.8
Unspecified level	14	8.5

<sup>1</sup> Information obtained from patient histories

<sup>2</sup> Operation Iraqi Freedom (OIF) started on 19 March 2003

<sup>3</sup> Fourteen falls from stair/ladder occurred while exiting the vehicle



# Mechanism for Fall, Near-fall and Jump Injuries, OIF: 2003 - June 2006<sup>1,2</sup>

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<b>Mechanism</b>	<b>Falls (%)</b>	<b>Near-falls (%)</b>	<b>Jumps (%)</b>
Landing on surface	0	0	90.9
Twist/Turn	5.7	61.8	N/A
Slip	5.2	6.3	N/A
Trip	4.7	5.5	N/A
Other	3.9	3.1	9.1
Unspecified	80.5	23.3	N/A
<b>TOTAL</b>	<b>100 (n=897)</b>	<b>100 (n=416)</b>	<b>100 (n=164)</b>

<sup>1</sup> Information obtained from patient histories

<sup>2</sup> Operation Iraqi Freedom (OIF) started on 19 March 2003

# Activity for Fall, Near-fall and Jump Injuries

## OIF: 2003 - June 2006<sup>1,2,3</sup>

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<b>Activity</b>	<b>Falls (%)</b>	<b>Near-falls (%)</b>	<b>Jumps (%)</b>
Walking/Marching/Running	7.3	29.0	0
On Foot (unspecified)	55.7	48.9	26.8
Climbing (up or down)	8.9	1.4	0
Other/Unspecified	3.1	4.1	0.6
Boarding & Exiting Vehicle	1.6	16.6	0
From Stationary Vehicle	23.4	0	72.6
<b>TOTAL</b>	<b>100 (n=897)</b>	<b>100 (n=415)</b>	<b>100 (n=164)</b>

<sup>1</sup> Information obtained from patient histories

<sup>2</sup> Operation Iraqi Freedom (OIF) started on 19 March 2003

<sup>3</sup> From stationary vehicle includes loading & unloading, etc.

# Vehicle Involvement with Fall, Near-fall and Jump Injuries, OIF: 2003 - June 2006<sup>1,2</sup>

<b>Vehicle Involvement</b>	<b>Falls (%)</b>	<b>Near-falls (%)</b>	<b>Jumps (%)</b>
Yes	25.4	16.6	74.4
No	74.6	83.4	25.6
<b>TOTAL</b>	<b>100 (n=897)</b>	<b>100 (n=416)</b>	<b>100 (n=164)</b>

<sup>1</sup>Information obtained from patient histories

<sup>2</sup>Operation Iraqi Freedom (OIF) started on 19 March 2003

# Sports-Related Injuries (NBI)

# Sports/PT- Related Injuries

## OIF: 2003 – June 2006<sup>1</sup>

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Sport	Frequency (n=1043)	Percent (%)
<b>Basketball</b>	<b>283</b>	<b>27.1</b>
<b>Football</b>	<b>208</b>	<b>19.9</b>
<b>Physical Training</b>	<b>198</b>	<b>19.0</b>
Weight Lifting	110	10.5
Softball\baseball	56	5.3
Wrestling/ Unarmed Combat Training	49	4.7
Volleyball	35	3.4
Soccer	26	2.5
Frisbee	11	1.1
Boxing	10	1.0
Swimming/Diving	10	1.0
Other specified	47	4.5

# Motor Vehicle-Related Injuries (NBI)

# Motor Vehicle-Related Non-battle Injuries

## OIF: 2003 - June 2006

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<b>Vehicle</b>	<b>Collision s (%)</b>	<b>Rollover s (%)</b>	<b>Riding (%)</b>	<b>Pedestrian (%)</b>	<b>Boarding / Alighting (%)</b>
HMMWV	21.3	35.9	22.5	32.8	20.2
Other Truck	1.9	4.7	14.0	16.4	17.0
2.5 & 5 Ton Truck	3.2	8.1	8.6	4.5	8.5
Tank/Bradley	2.5	1.7	2.3	3.0	6.4
Other specified	8.2	14.9	9.4	19.4	13.9
Unspecified	63.0	34.6	43.4	23.9	34.0
<b>TOTAL</b>	<b>100 (n=413)</b>	<b>100 (n=234)</b>	<b>100 (n=129)</b>	<b>100 (n=67)</b>	<b>100 (n=94)</b>

# Victim Role in Motor Vehicle Accidents

## OIF: 2003 - June 2006<sup>1,2</sup>

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Victim Role	Percent
Passenger	19.3
Driver	12.8
Pedestrian	7.9
Gunner	7.2
Unknown	52.8
<b>TOTAL</b>	<b>(n=865)</b>

<sup>1</sup> Information obtained from patient histories

<sup>2</sup> Excludes boarding and alighting cases



# Summary

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- Non-battle injuries (NBI) are the leading cause of medical air evacuations from OIF
- 17 Soldiers per 1000 Soldiers assigned to OIF have been medically air evacuated for NBI
- Falls/jumps, sports, and motor vehicle - related accidents are the 3 leading NBI causes resulting in air evacuation
- These data provide a 1<sup>st</sup> look at causes of non-battle injuries among deployed Soldiers. Many of these injury causes are preventable and should be further evaluated to develop prevention strategies and policies.